In case of underground mines, at present there are a total of 305 existing mines as detailed below:

(i) 96 mines are already mechanized;

(ii) 209 mines are either manual or mixed *i.e.* having manual as well as mechanized workings. Of these, 80 mines are proposed for mechanization in the Xth Plan period. In opencast mines almost the entire coal production comes from mechanized mines. Thrust is being given for higher degree of mechanization in opencast mines with bigger size of Heavy Earth Moving Machineries (HEMM).

Some of the frontier technologies which are finding increasing application in CIL are Longwall mining, continuous miners in underground mines and surface miner in opencast mines.

(c) and (d) CIL is giving thrust for increasing mechanization and improving production and productivity to improve economics of underground mines.

By the end of Xth Plan, additional 4.46 million tonnes of coal production will be achieved by mechanization of above 80 underground mines.

**Exploration of Coal Bed Methane**

1895. SHRIMATI S.G. INDIRA: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that Government have taken a decision to invest in technologies such as exploration of Coal Bed Methane (CBM) and Underground Coal Gasification (UCG);

(b) if so, the details thereof;

(c) whether it is also a fact that Government have envisaged CBM production and UCG equivalent to 25 million tonnes of coal by 2025; and

(d) if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF COAL (DR. DASARI NARAYAN RAO): (a) and (b) Yes, Sir. Details of activities for promotion of Coal Bed Methane (CBM) and Underground Coal Gasification (UCG) are given as under:—

In order to harness CBM potential in the country, government formulated a CBM policy in 1997. A total of 16 CBM blocks have been awarded so far (3 on nomination basis, 5 under CBM-I round and 8 under CBM-II round) for exploration and production of CBM. In addition, a dennonstration project named Coal Bed Methane Recovery and Commercial Utilization has been taken up in collaboration with United Nations Development Programme (UNDP) and Global Environment Facility (GEF). The project has been sanctioned by Government of India in September, 1999 and is under implementation at Sudamdih and Moonidih mines at BCCL. CIL and ONGC have decided to take up a project for establishing UCG technology. A draft MOU has already been approved by Board of Directors of CIL. Initial work of data exchange needed for identification of trial site has already been taken up.

NLC proposes to take up a UCG project in a suitable lignite block in Rajasthan under Ministry of Coal's S & T programme and Department of Science and Technology funding at a total cost of Rs. 1125 lakhs.

(c) and (d) The draft Vision Coal 2025 document prepared by Ministry of Coal in March, 2005 has assessed CBM production and production of gap from UCG equivalent to 25 million tonnes of coal by the year 2025. The draft document has been circulated to concerned Ministries/Departments and various other organizations for their comments to finalise the document.

**Lack of security norms in coal mines;**

†1896. SHRI KALRAJ MISHRA: Will the PRIME MINISTER be pleased to state:

(a) whether the number of accidents in coal mines has increased due to overlooking of safety norms; and

(b) the measures being taken by Government to prevent these accidents?

THE MINISTER OF STATE IN THE MINISTRY OF COAL (DR. DASARI NARAYAN RAO): (a) As reported by Directorate General of Mines Safety (DGMS), there has been marginal increase in the number of accidents in coal mines in recent years. Accidents in coal mines take place due to human error/negligence.

†Original notice of the question was received in Hindi.